Electricity Bill Suite - Project Overview

1. File Structure

ElectricityBillSuite.sln
- ■ ElectricityBillSuite.Web (ASP.NET Web Forms project)
- ■ ■ Global.asax
- ■ ■ Web.config
- ■ ■ Site.master
- ■ ■ Default.aspx (+ Default.aspx.cs)
- ■ ■ Register.aspx (+ Register.aspx.cs)
- ■ ■ UserLogin.aspx (+ UserLogin.aspx.cs)
- ■ ■ AdminLogin.aspx (+ AdminLogin.aspx.cs)
- ■ ■ UserDashboard.aspx (+ .cs)
- ■ ■ AdminDashboard.aspx (+ .cs)
- ■ ■ Payment.aspx (+ .cs)
- ■ ■ PaymentSuccess.aspx (+ .cs)
- ■ ■ NewConnection.aspx (+ .cs)
- ■ ■ RaiseConcern.aspx (+ .cs)
- ■ ■ ViewBills.aspx (+ .cs)
- ■ ■ Outage.aspx (+ .cs)
- ■ ■ ManageOutages.aspx (+ .cs)
- ■ ■ GenerateBill.aspx (+ .cs)
- ■ ■ Reports.aspx (+ .cs)
- ■ ■ App_Code
- ■ ■ ■ DatabaseConnection.cs
- ■ ■ ■ PdfHelper.cs
- ■ ■ ■ EmailService.cs
- ■ ■ ■ Utility.cs
- ■ ■ Styles/adani.css
- ■ ■ Scripts/app.js
- ■ ebdbprj (Database project)
- ■ ■ Scripts
- ■ ■ ■ 01_CreateDatabase.sql
- ■ ■ ■ 02_Tables.sql
- ■ ■ ■ 03_Seed.sql

2. Flow of Application

- User Registration → UserLogin → UserDashboard
- View Bills → Pay via Razorpay → PaymentSuccess (PDF + Email)
- Apply for New Connection (uploads, fee) → Admin assigns connection
- Raise Concern → Admin resolves concern
- Outage View (User) ↔ ManageOutages (Admin)
- AdminDashboard → Revenue Reports (Chart.js + DataTables)
- Admin sends legal notices (PDF via EmailService)

3. Libraries & Dependencies

- ASP.NET Web Forms (.NET Framework 4.7.2) - UI and code-behind model
- System.Data.SqlClient - database connections
- Bootstrap 5 (CDN) - responsive UI
- jQuery (CDN) - interactivity
- Chart.js (CDN) - revenue charts
- DataTables.js (CDN) - admin searchable/sortable tables
- iTextSharp (NuGet optional) - rich PDF generation
- SMTP (System.Net.Mail) - sending email with attachments
- Razorpay JS + Webhook - payment integration (test mode)

4. Concepts Used

- Master Page for common layout (Site.master)
- Code-behind model for UI events
- ADO.NET SqlConnection, SqlCommand for DB operations
- Role-based login (User vs Admin)